

# Answer Key

NAME \_\_\_\_\_

DATE \_\_\_\_\_

PERIOD \_\_\_\_\_

## Study Guide Practice for Mid-Unit Assessment

1. A kangaroo hops 2 kilometers in 3 minutes. At this rate:

a) How long does it take the kangaroo to travel 5 kilometers?

$$\frac{3}{2} \times \frac{5}{1} = \frac{15}{2} \text{ minutes} = 7\frac{1}{2} \text{ minutes}$$

2. How far does the kangaroo travel in 2 minutes?

$$\frac{4}{3} \text{ km} = 1\frac{1}{3} \text{ km in 2 minutes}$$

km	min
2	3
$\div 2$ 1	$\div 2$ $\frac{3}{2}$
$\times 5$ 5	$\times 5$ $\frac{15}{2}$
$\frac{2}{3}$	1
$\div 3$ $\frac{4}{3}$	$\div 3$ $\frac{1}{3}$
$\times 2$ $\frac{8}{3}$	$\times 2$ $\frac{2}{3}$

2. Mai runs around a 400-meter track at a constant speed of 250 meters per minute. How many minutes does it take Mai to complete 4 laps of the track? Explain or show your reasoning.

$$\begin{array}{r} 250 \\ \times 4 \\ \hline 1000 \\ 1000 \\ 1000 \\ \hline 1000 \end{array}$$

$$\begin{array}{r} 400 \\ \times 4 \\ \hline 1600 \end{array}$$

$$\begin{array}{r} 6.4 \\ 250 \overline{) 1600.0} \\ \underline{1500} \phantom{0} \\ 1000 \phantom{0} \\ \underline{1000} \\ 0 \end{array}$$

Distance (m)	Time (minutes)
250	1
1	$\frac{1}{250}$
1600	6.4

3. There are 4 tablespoons in  $\frac{1}{4}$  cup. There are 2 cups in 1 pint. How many tablespoons are there in 1 pint? If you get stuck, consider drawing a double number line or making a table.

There are 32 Tablespoons in 1 pint.

T	cups	pints
4	$\frac{1}{4}$	
$\times 4$ 16	1	
$\times 2$ 32	2	1

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4. At 10:00 a.m., Han and Tyler both started running toward each other from opposite ends of a 10-mile path along a river. Han runs at a pace of 12 minutes per mile. Tyler runs at a pace of 15 minutes per mile.

- a) How far does Han run after a half hour? After an hour?

He runs 2.5 miles in a half hour and 5 miles in an hour.

$$\begin{array}{r} 2.5 \\ 12 \overline{) 30.0} \\ \underline{-24} \phantom{0} \\ 60 \end{array}$$

Han:

minutes	miles
12	1
1	$\frac{1}{12}$
30	$\frac{30}{12} = 2.5$
60	5

- b) Do Han and Tyler meet on the path within 1 hour? Explain or show your reasoning.

No. Han will travel 5 miles and Tyler will travel 4 miles for a total of 9 miles. The path is 10 miles long so they will still be 1 mile apart.

Tyler:

minutes	miles
15	1
$\times 4$ 60	$4 \times 1 = 4$

5. Two skateboarders start a race at the same time. Skateboarder A travels at a steady rate of 15 feet per second. Skateboarder B travels at a steady rate of 22 feet per second. After 4 minutes, how much farther will Skateboarder B have traveled? Explain your reasoning.

Skateboarder B will have traveled 1,680 feet farther. A traveled 3600 feet so I subtracted that from B's distance of 5280 feet to get 1,680 feet.

$$\begin{array}{r} 5280 \\ - 3600 \\ \hline 1680 \end{array}$$

$$\begin{array}{r} 22 \\ \times 60 \\ \hline 1320 \\ \times 4 \\ \hline 5280 \end{array}$$

A:

ft	sec	min
15	1	
900	60	1
3600		4

B:

ft	sec	min
22	1	
1320	60	1
5280		4